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DOCKET FILE COPY ORIGINAL

August 21, 1998

Via Hand Delivery
Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, NW
Room 222
Washington, DC 20554

Re: ET Docket No. 98-42

Dear Ms. Sales:

On behalf of General Electric Company, we transmit herewith an original and nine copies of Reply Comments in response to the Commission's Notice of Proposed Rule Making in the above-referenced proceeding.

Should there be any questions, please contact the undersigned.

Very truly yours,

Donald Zeifang

Enclosures

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
1998 Biennial Regulatory Review	)	ET Docket No. 98-42
Amendment of Part 18 of the	)	
Commission's Rules to Update	)	
Regulations for RF Lighting Devices	)	

To: The Commission

REPLY COMMENTS OF GENERAL ELECTRIC COMPANY

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REPLY COMMENTS OF GENERAL ELECTRIC COMPANY

1. General Electric Company ("GE") hereby files reply comments in the above-captioned proceeding. Specifically, GE responds to comments filed by the National Association of Broadcasters ("NAB") and, to a lesser extent, ADTRAN, Inc. GE takes strong exception to NAB's argument that, since the Commission has introduced a separate broad inquiry into the general subject of relaxed conducted limits[1] no action should be taken on the instant Notice of Proposed Rulemaking. Further delay by the Commission would be unwarranted based on several factors. The merits of the proposals in this docket stand on their own. Advances in technology and energy conservation, to say nothing of the needs of the affected consumers and businesses, make it imperative that the Commission proceed separately on this docket and in a timely manner. To further postpone action on this proceeding based on the speculative concerns presented in the NAB comments would be unreasonable. In the specific case of the relaxation for EFL products over the range 2.2-3.0 MHz, there have been no reported cases of interference.

[1] See 1998 Biennial Regulatory Review – Conducted Emissions Limits Below 30 MHz for Equipment Regulated Under Parts 15 and 18 of the Commission's Rules (Notice of Inquiry in ET Docket No. 98-80) ("NOI"), released June 8, 1998.

2. GE submitted its request seeking a waiver of Section 18.307(c) of the Commission's Rules on November 15, 1994, in contemplation of a future rulemaking.[2] The Commission should therefore conclude this rulemaking without further delay and undertake the subject of additional potential relaxations as a distinct and separate matter, which appears to be the original intent of the Commission.

3. As GE noted in its Comments, GE also supports the general conducted limit relaxations proposed by the Commission since they are moderate and since there has been no widespread interference from the many millions of RF lighting devices of all types that currently exist in the combined consumer and non-consumer market.[3] Indeed, the Commission has recognized that the RF lighting area has proven to have an excellent history of compliance.[4] In opposing comments, NAB fails to present a compelling case to postpone adoption of the broad relaxations proposed by the Commission, even within the AM broadcast band, where NAB presumably has a vested interest.

4. On July 28, 1998, the Commission granted NAB's request for an extension of time for the filing of comments in response to the NOI in ET Docket 98-80. The NOI should stand on its own, as intended by the Commission, to begin a dialogue on whether further relaxations, beyond the scope included in this proceeding, are warranted, given the generally excellent compliance history, lack of interference issues, and potential advantages to both manufacturers and users that would result with additional future deregulation.

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[2] See GE Comments in ET Docket No. 98-42 at 2-4.

[3] GE Comments at 4-5.

[4] See Amendment of Parts 2, 5, 18 and other Parts of the Commission's Rules to Simplify and Streamline the Equipment Authorization Process for Radio Frequency Equipment (Notice of Proposed Rule Making in ET Docket No. 97-94), 12 FCC Rcd 8473 (1997) at ¶18; Report and Order (released April 16, 1998) at ¶ 21.

REPLY COMMENTS TO NAB

5. NAB claims there is a problem with the existing two-tiered consumer and non-consumer approach to conducted limits. NAB Comments at 2. Importantly, no widespread problems resulting from this approach have been reported or documented, either by the Commission or by NAB. The two-tiered approach has worked well for users, the communications industry, and manufacturers. This approach, in effect now for over a decade, allows for the optimum protection of radio and communication services based on the environment within which a Part 15 or Part 18 device is intended and marketed to operate without unreasonably burdening manufacturers of devices such as RF lighting devices that have not caused problems. To require all devices to meet consumer emission requirements is unwarranted and would impose undue costs to both manufacturers and users with no resultant benefit.

6. RF lighting devices are well segregated by market channel. The history of the two-tiered system strongly indicates that, although the Commission cannot ensure that there will never be any non-consumer products that end up in consumer applications, such events are rare and have not caused interference problems. Indeed, this subject has been discussed by the Commission in the past and NAB has offered no reason for the Commission to reconsider its decision.[5]

7. NAB claims that radio and TV receivers are typically as close, if not closer, to low power non-licensed radio frequency devices as those used in residential environments. NAB Comments at 2. It is generally well known that both radio and TV reception capability are

[5] See FCC Regulations Concerning RF Lighting Devices, 65 RR 2d 569, 572-573 (1988).

typically seriously degraded in many non-consumer environments such as stores, offices, and institutions—not due to the coincident location of devices such as RF lighting, but due largely to the natural signal attenuation caused by commercial buildings and their structural steel components. Where it is the intent of such non-residential establishments to receive such signals with maximum clarity, external antenna or cable systems are typically employed regardless of the nearby use of any non-licensed radio frequency devices.

8. NAB claims that the potential existence of multiple RF devices in an environment produces a sufficient basis not to relax the conducted emissions limits. NAB Comments at 3-4. In the case of RF lighting, however, the very nature of lighting requires aggregate installations and there has been no history of interference from such devices or such installations over the past decade. This very fact was one of the considerations that the Commission took into account when proposing conducted emission relaxations for RF lighting devices. Thus, it appears that NAB continues to surface "potential interference" concerns where the Commission's own experience would indicate that there has been no cause for concern. There are literally hundreds of millions of RF lighting devices in service today in the U.S.—many in aggregate installations. The fact that there have been no widespread issues with these devices or such installations over the past decade provides compelling evidence that NAB's continued concerns in this area have not been evidenced in practice.

9. NAB states that the proposed moderate relaxed limits would cause "tremendous harm" to both the AM broadcasting service and to the American public. NAB Comments at 3. Relaxation in the 2.2-3.0 MHz range, however, is well above the AM broadcast band.

Additionally, NAB has provided no technical justification to substantiate its concern or to contradict the Commission's own experience in this area over the past decade. [6]

10. NAB also claims that limits for RF lighting devices in non-residential environments should be reduced to levels below the existing limits for residential environments and not relaxed as the Commission has proposed. NAB Comments at 4. This claim is based on the mistaken assumption that conducted or radiated emissions from aggregate installations of RF lighting devices are algebraically additive at any point as more sources are employed. This does not occur for several reasons. First, the impedance of the branch circuit to which devices are connected, plus the impedances of other connected loads, act to dissipate RF energy and to ensure that the contribution of RF devices located farther away from any measurement point are diminished. Second, in non-residential environments, power wiring for lighting and other devices is enclosed in metallic conduit. This conduit acts as an effective electromagnetic shield to greatly reduce radiation from wiring, which again reduces any potential additive effects. Third, the RF lighting devices themselves are most often found in grounded metallic fixtures in non-residential environments. These fixtures act as electromagnetic shields and greatly reduce radiated emissions from single units and aggregate installations. Lastly, radiated emissions fall off strongly with distance. Experience demonstrates that, in the aggregate situation, only the fields produced by the nearest source are generally of any consequence since the fields from other RF lighting devices in the same room are greatly attenuated by distance.

[6] In the very worst case, should such interference become apparent, the Commission always retains the authority to require manufacturers to cease the sale and distribution of offending products regardless of the regulatory emission limit requirements.

11. While apparently not adverse to the relaxation for electrodeless fluorescent lamps ("EFLs") in the specific frequency range from 2.2-2.8 MHz, ADTRAN expresses concern with "harmonic signals" in other spectral areas, meaning other wavelength regions. ADTRAN Comments at 2. As such, any EFLs that are allowed to take advantage of the proposed relaxation in the 2.2-2.8 MHz region must still comply with all other conducted emission limits up through 30 MHz as well as radiated emission limits above 30 MHz.[7] These additional requirements adequately address ADTRAN's concerns. If ADTRAN is concerned with power harmonic issues below the fundamental frequency of operation, then relaxation will not significantly impact this type of harmonic behavior, since the very low frequency harmonics are more a function of the power factor of the device. Power factor and low power harmonics are not regulated by the Commission's rules.

Conclusion

12. Therefore, for the reasons stated above, the Commission should not delay the conclusion of the pending Notice of Proposed Rulemaking.

Respectfully submitted,

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[7] Contrary to the comments of Mr. Donald L. Sweeney, radiated measurements for RF lighting devices are required as long as the operating frequency of the device is anywhere in the RF range.